Serial Number: 10/036389 Filing Date: January 7, 2002

Title: THINNED DIE INTEGRATED CIRCUIT PACKAGE

Assignee: Intel Corporation

REMARKS

Applicant has carefully reviewed and considered the Office Action mailed on May 15, 2003, and the references cited therewith.

Claim 42 is amended, no claims are canceled, and no claims are added. As a result, claims 13-27 and 29-44 remain pending in this application.

Double Patenting Rejection

Claims 13-44 were rejected under the judicially created doctrine of double patenting over claims 1-9 of U.S. Patent No. 6,423,570. Applicant respectfully traverses this rejection and requests the Office to consider the following.

U.S. Patent No. 6,423,570 includes article claims, 1-9. These article claims are of a statutory class that is different from the claims of the instant application. The claims of the instant application can be referred to as "process" according to the statutory class. Because the claims of the instant application are patentably distinct from the claims of U.S. Patent No. 6,423,570 (see MPEP § 804.II.B.1), double patenting is not an issue. Withdrawal of this rejection is respectfully requested.

§102 Rejection of the Claims

Claims 13-15 and 17-23 were rejected under 35 USC § 102(e) as being anticipated by Tsao et al. (U.S. 6,552,267) or Motamedi (U.S. 6,559,670). Applicant respectfully traverses this rejection and requests the Office to consider the following.

Applicant notes Tsao was filed on August 13, 2001. Applicant informs the Office that the date of invention of the instant application was on or before April 6, 2000. Applicant, however, does not at this time assert its earlier invention date over Tsao.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." (*Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987), M.P.E.P. §2131, 8th Ed., Rev. 1).

Claim 13 requires "mounting a thinned semiconductor die on a planar surface of a heat spreader." The Office Action asserts "Tsao discloses a method of fabricating an integrated

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circuit package, comprising mounting a thinned semiconductor die etc." This is incorrect. Tsao neither teaches nor suggests his die is a thinned die. Consequently, Tsao neither expressly nor inherently describes the limitation of claim 13. Because Tsao does not anticipate claim 13, withdrawal of the rejection is respectfully requested.

Applicant notes that since claims 14-15 and 17-23 depend from claim 13, they are likewise not anticipated by Tsao. Withdrawal of the rejection is respectfully requested.

Regarding the rejection of claims 13-15 and 17-23 over Motamedi, the Office Action asserts "Motamedi also discloses a method of fabricating an integrated circuit package, comprising mounting a thinned semiconductor die etc." This is also incorrect. Motamedi neither teaches nor suggests his die is a thinned die. Consequently, Motamedi neither expressly nor inherently describes the limitation of claim 13. Because Motamedi does not anticipate claim 13, withdrawal of the rejection is respectfully requested.

Applicant notes claims 14-15 and 17-23 depend from claim 13, they are likewise not anticipated by Motamedi. Withdrawal of the rejection is respectfully requested.

§103 Rejection of the Claims

Claims 24-31 were rejected under 35 USC § 103(a) as being unpatentable over Tsao et al.

Applicant respectfully traverses this rejection and requests the Office to consider the following.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). (M.P.E.P. § 2143 8th Ed, Rev.1).

The Office Action admits that Tsao does not disclose "mounting a plurality of thinned semiconductor dice on to a planar surface " Applicant notes that this rejection is a single-

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reference rejection, and since Tsao neither teaches nor suggests "providing a plurality of thinned semiconductor dice" (claim 24), the cited reference does not teach or suggest all the claim limitations. Withdrawal of the rejections is respectfully requested.

Claims 16, and 32-44 were rejected under 35 USC § 103(a) as being unpatentable over Tsao et al.

Regarding claim 16, Applicant notes that claim 16 depends from claim 13, which claim it has been demonstrated is not anticipated by Tsao. Applicant notes that this rejection is a single-reference rejection, and since Tsao neither teaches nor suggests "mounting a thinned semiconductor die on a planar surface" (claim 13), the cited reference does not teach or suggest all the claim limitations. Withdrawal of the rejections is respectfully requested.

Regarding claim 32, Applicant notes that claim 32 includes the limitation of "mounting a thinned semiconductor die on a planar surface" Applicant notes that this rejection is a single-reference rejection, and since Tsao neither teaches nor suggests mounting a thinned semiconductor die on a planar surface (claim 32), the cited reference does not teach or suggest all the claim limitations. Withdrawal of the rejections is respectfully requested.

Applicant notes claims 33-44 depend from claim 32, and therefore Tsao does not teach or suggest all the claim limitations. Withdrawal of the rejection is respectfully requested.

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Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney, John Greaves at 801-278-9171, or the below signed attorney at 612-349-9592, to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

CHENG-YI LIU ET AL.

By their Representatives,

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Date July 15, 2003

Ann M. McCrackin

Reg. No. 42,858

<u>CERTIFICATE UNDER 37 CFR 1.8:</u> The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this <u>15th</u> day of <u>July, 2003</u>.

ANN MCCRACKIN

ann M. McCreck

Name

Signature